

MISSOURI STATE UNIVERSITY  
Masters Degree in  
Applied Behavior Analysis  
A proposal for the Missouri Department of Higher Education

3/31/2014

1. New Program Proposal Form



Building Missouri's future...by degrees

NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): Missouri State University

Program Title: Applied Behavior Analysis

Degree/Certificate: Master of Science

Options: Not applicable

Delivery Site(s): Missouri State University, Springfield, MO

CIP Classification: 42.2801

Implementation Date: AY2014-2015

Cooperative Partners: Not applicable

AUTHORIZATION:

Dr. Frank Einhellig, Provost Frank Einhellig 3/31/14  
Name/Title of Institutional Officer Signature Date

Dr. Tim Daugherty, Department Head 417-836-5797  
Person to Contact for More Information Telephone

## Executive Summary

Missouri State University is seeking approval to offer a Master of Science in Applied Behavior Analysis (MS ABA) to help meet the need for mental health professionals prepared to provide services for those with developmental disabilities and behavioral disorders, including autism spectrum disorders (ASD). The Missouri Department of Health has identified a critical shortage of applied behavior analysts and other mental health professionals, especially in rural communities.

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The prevalence of children diagnosed with developmental disorders is increasing. According to the Centers for Disease Control and Prevention, about 1 in 88 children has been identified as having an autism spectrum disorder. The most effective form of treatment for these disorders and the associated concerns, such as language development, is applied behavior analysis (ABA). Recently Missouri legislators recognized that a lack of insurance coverage was a barrier to consumers obtaining ABA treatment for their children with this disorder. In January of 2011, the autism insurance mandate went into effect in Missouri requiring that all employer based group health plans offer coverage for autism treatment. Insurers reimburse for up to \$40,000 per year per child for provision of ABA services provided by a state licensed behavior analyst.

To become licensed as a behavior analyst, one must be certified by the Behavior Analysis Certification Board (BACB). This board was established in 1998, with the goal of monitoring the quality of applied behavior analysis services offered to the public. Certification requirements include successful completion of approved course sequences and content, supervised internship work, and passing scores on a professional examination.

Students in the Master of Science in Applied Behavior Analysis will complete 33 credits of classroom work, including an empirically-based thesis project as a culminating experience, and 6 credits of practicum work for a total of 39 credits. The program will provide interdisciplinary training opportunities for educators, clinicians, child development specialists, counselors, and others interested in gaining expertise in applied behavior analysis.

Currently there are only four other schools in the state (the Forest Institute, St. Louis University, Southeast Missouri State University, and the University of Missouri – St. Louis) which offer graduate level courses that lead to eligibility for certification as a Board Certified Behavior Analyst (BCBA). An additional program is being developed at University of Central Missouri. In addition to increasing the number of opportunities for those interested in becoming certified and licensed behavior analysts, our proposed program will be unique since it will provide a strong basis of training through Psychology, as well as opportunities for additional specialized training in Special Education. Graduates from this program will be uniquely prepared for work in school settings, given that they can receive training in autism spectrum disorders, the context of school systems, as well as principles of applied behavior analysis.

Program leaders anticipate admitting five students during the first semester and nine students each year thereafter. It is expected that there will be 14 graduates by year 3 and 32 by year 5. Because this is a full-time program consisting of five consecutive semesters, there are no part-time enrollment options. While most graduates are likely to seek certification and then state licensure, some may use the program as a springboard to further graduate study.

## 2. Rationale for the Program

Missouri State University (MSU) has a strong history of preparing leaders in the fields of health and education to help meet the needs of the region, state, and nation. Utilizing the strengths and experiences of the Psychology Department in the College of Health and Human Services (CHHS) in cooperation with the Department of Counseling, Leadership, and Special Education in the College of Education (COE), the University is seeking approval to offer a Master of Applied Behavior Analysis (MS ABA). Factors driving the proposal for this new degree program include the critical shortage of applied behavior analysts and other mental health professionals needed to provide services to Missourians, especially in rural communities.

Applied Behavior Analysis (ABA) is a branch of study and practical application stemming from Experimental Behavior Analysis (EAB) and the basic principles of learning. Historically, EAB is rooted in empirical analysis of behavior, beginning with lab animals, and progressing to humans. While EAB researchers are concerned with testing laws of behavior, applied behavior analysts use those findings to analyze the relationship between an individual's environment and their behavior. By understanding how a behavior functions within one's environment, the behavior analyst can then begin to change behavior. Applied behavior analysis is utilized in a wide range of applications, such as psychotherapy,<sup>1</sup> sports performance,<sup>2</sup> medical care adherence,<sup>3</sup> business,<sup>4</sup> language acquisition,<sup>5</sup> classroom management,<sup>6</sup> and most notably in the treatment of children with developmental disabilities, including autism spectrum disorders (ASD).<sup>7</sup>

Unfortunately, the prevalence of children diagnosed with developmental disabilities, including autism spectrum disorders, is increasing.<sup>8</sup> According to the Centers for Disease Control and Prevention, about 1 in 88 children has been identified as having an autism spectrum disorder.<sup>9</sup> In addition to the increasing prevalence of autism spectrum disorders in children, the number of autistic adults will increase as an estimated 500,000 children with autism will transition to adulthood in the next decade.<sup>10</sup> The most effective form of treatment for these disorders and the associated concerns, such as language development, is ABA.<sup>11</sup> Frequently, intervention programs occur across multiple settings, including in-home early intervention programming, through community agencies, as well as within the school setting.

<sup>1</sup> Harvey, M.T., Luiselli, J.K., & Wong, S.B. (2009). Application of applied behavior analysis to mental health issues. *Psychological Services*, 6, 212-222.

<sup>2</sup> Brobst, B. & Ward, P. (2002). Effects of public posting, goal setting and oral feedback on the skills of female soccer players. *Journal of Applied Behavior Analysis*, 35, 247-257.

<sup>3</sup> Rapoff, M., Belmont, J., Lindsey, C., Olson, N., Morris, J. & Padur, J. (2002). Prevention of nonadherence to nonsteroidal anti-inflammatory medications for newly diagnosed patients with juvenile rheumatoid arthritis. *Health Psychology*, 21, 620-623.

<sup>4</sup> Wilder, D., Austin, J. & Casella, S. (2009). Applying behavior analysis to organizations: Organizational behavior management. *Psychological Services*, 6, 202-211.

<sup>5</sup> Ingvarsson, E.T. & Hollobaugh, T. (2010). Acquisition of intraverbal behavior: Teaching children with autism to mand for answers to questions. *Journal of Applied Behavior Analysis*, 43, 1-17.

<sup>6</sup> Bicar, D.F., Ervin, A., Bicar, S. & Baylot-Casey, L. (2012). Differential effects of seating arrangements on disruptive behavior of fifth grade students during independent seatwork. *Journal of Applied Behavior Analysis*, 45, 407-411.

<sup>7</sup> National Council of Research. (2001). *Educating children with autism*. Washington DC: The National Academies Press.

<sup>8</sup> Boyle CA, Boulet S, Schieve L, Cohen RA, Blumberg SJ, Yeargin-Allsopp M, Visser S, Kogan MD. (2011) Trends in the Prevalence of Developmental Disabilities in US Children, 1997-2008. *Pediatrics*. 127 (6):1034-1042.

<sup>9</sup> Centers for Disease Control and Prevention. (2012). *Prevalence of Autism Spectrum Disorders - Autism and Developmental Disabilities Monitoring Network, 14 sites, United States, 2008* [Electronic Version]. MMWR. 2012; 61(SS03):1-19. Washington, DC: U.S. Government Printing Office.

<sup>10</sup> Autism Speaks. (2014). *Autism Speaks to Washington Kicks Off*. Retrieved March 3, 2014 from <http://www.autismspeaks.org/news/news-item/autism-speaks-washington-kicks>

<sup>11</sup> Ibid.

Recently, Missouri legislators recognized the efficacy of ABA as a treatment for children with ASD, and that a lack of insurance coverage was a potential barrier to consumers obtaining this treatment for their children with this disorder. In January of 2011, the autism insurance mandate went into effect within Missouri requiring that all employer based group health plans offer coverage for autism treatment.<sup>12</sup> As of August 2012, thirty-seven other states had similar mandates in place, with others making strides to follow suit.<sup>13</sup> In Missouri, insurers reimburse up to \$40,000 per year per child for provision of ABA services provided by a licensed behavior analyst.<sup>14</sup>

To become licensed as a behavior analyst, one must be certified by the Behavior Analysis Certification Board.<sup>15</sup> This board was established in 1998, with the goal of monitoring the quality of applied behavior analysis services offered to the public. Certification requirements include successful completion of approved course sequences and content, supervised internship work, and passing scores on a professional examination.

Given the rising prevalence of children diagnosed with developmental disabilities and autism spectrum disorders, there is a great need within our community for institutions of higher education to offer the coursework and programmatic training that are required for certification and licensure. Furthermore, it is expected that the need will increase in 2014, when the Affordable Health Care Act requires that individual and small business group plans also provide coverage for autism related services.<sup>16</sup> This will open up the opportunity for even more families to seek ABA treatment with insurance coverage.

The proposed program is a cooperative endeavor between Psychology and Special Education. It will serve to meet the broad training needs of individuals interested in multiple applications of behavior analysis, as well as offer the opportunity for specialized training in work with individuals affected by autism spectrum disorders. In addition, the training will prepare uniquely those students who intend to utilize their additional ABA training within classroom settings.

### 3. Student Enrollment Projections (Form SE), including a rationale for how projections were calculated.

Form SE  
Student Enrollment Projections

Form SE	Year				
	1	2	3	4	5
Full Time	5	14	18	18	18
Part Time	0	0	0	0	0
Total	5	14	18	18	18

Enrollment projections are based on the level of interest expressed by current and prospective students at Missouri State University majoring in Psychology and Special Education as reported by academic

<sup>12</sup> Mo. Rev. Stat. § 376.1224 (2010) Retrieved March 3, 2014, from <http://www.moga.mo.gov/statutes/c300-399/3760001224.htm>

<sup>13</sup> National Conference of State Legislatures. (2014) Insurance Coverage for Autism. Retrieved March 3, 2014, from <http://www.ncsl.org/research/health/autism-and-insurance-coverage-state-laws.aspx>

<sup>14</sup> Mo. Rev. Stat. § 376.1224 (2010) Retrieved March 3, 2014, from <http://www.moga.mo.gov/statutes/c300-399/3760001224.htm>

<sup>15</sup> Behavior Analyst Certification Board. (2014) *About BACB Credentials*. Accessed March 3, 2014, from <http://www.bacb.com/>

<sup>16</sup> Patient Protection and Affordable Care Act, Pub. L. No. 111-148, §2702, 124 Stat. 119, 318-319 (2010)

advisors. In addition, enrollment records for current undergraduate and graduate level courses related to autism and ABA were analyzed to help determine enrollment projections.

Due to the anticipated start date of Fall 2014 with limited time for recruitment of qualified ABA students, five students will be accepted for the initial cohort. Thereafter, a maximum of nine full-time students will be accepted per year. Given the intense faculty time commitment for practicum and thesis supervision, and our efforts to maintain quality training, nine students per year appears manageable. This number of graduate students is also in concordance with existing acceptance rates in each of the three Psychology Masters tracks (Clinical, Experimental, and Industrial/Organizational).

#### 4. Evidence of Market demand/Societal need supported by research

##### 4.A. Market Demand

**National.** The American Psychological Association reported that there is a critical need for mental and behavioral health training, and a particular shortage of professionals who specialize in the needs of children and older adults.<sup>17</sup> In addition, the prevention, diagnosis and/or treatment of the fifteen leading causes of death as reported by the CDC have a behavioral component. Although there has been a steady increase in the number of individuals with BCBA certification, there has also been a rapid increase in the number of positions for BCBA qualified individuals established by both the public and private sectors.<sup>18</sup> A recent search of a national employment website revealed 4,940 open positions for behavior analysts.<sup>19</sup> With implementation of the Affordable Health Care Act requiring that individual and small business group plans provide coverage for autism related services, the demand for qualified professionals is expected to increase.<sup>20</sup>

**State.** According to the Health Resources and Services Administration of the U.S. Department of Health and Human Services, 104 Missouri counties and most of St. Louis City are designated by the federal government as mental health professional shortage areas.<sup>21</sup> The Department of Insurance, Financial Institutions and Professional Registration reported that since state licenses for behavior analysts were first issued in December of 2010, 218 people have obtained licensure at the master's level with 181 still active.<sup>22</sup> Although this is a positive sign of growth and contributes to the ABA services available, 87 of Missouri's 115 counties, particularly those in rural areas of the State, have no resident licensed behavior analyst to provide services.<sup>23</sup> As a result, despite assurance of treatment, many still cannot access care. In response to critical shortages of mental health professionals, the Missouri Department of Mental Health's Strategic Plan includes a goal of "Developing and expanding a viable Missouri mental health

<sup>17</sup> American Psychological Association. (2009) *A Critical Need for Mental (and Behavioral) Health Workforce Training*. Retrieved March 3, 2014, from <http://www.apa.org/health-reform/pdf/mental-health-workforce.pdf>

<sup>18</sup> Shook, GL, Favell, JB. (2008) The Behavior Analyst Certification Board and the Profession of Behavior Analysis. [Electronic version] *Behav Anal Pract.* 19(1): 44-48.

<sup>19</sup> Indeed. *Behavior Analyst Jobs*. Retrieved March 3, 2014, from <http://www.indeed.com/q-Behavior-Analyst-jobs.html>

<sup>20</sup> Patient Protection and Affordable Care Act, Pub. L. No. 111-148, §2702, 124 Stat. 119, 318-319 (2010)

<sup>21</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration. (2014). *Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations*. Retrieved March 3, 2014, from <http://www.hrsa.gov/shortage/>

<sup>22</sup> Department of Insurance, Financial Institutions & Professional Registration. (2014). *Annual Report to the Missouri Legislature: Insurance Coverage for Autism Treatment & Applied Behavior Analysis*. Retrieved March 3, 2014, from <https://insurance.mo.gov/consumers/autismFAQ/documents/2014AutismReport.pdf>.

<sup>23</sup> Ibid. 13.

workforce.”<sup>24</sup> Missouri Governor Nixon proposed the *Caring for Missourians: Mental Health* initiative to expand mental health training opportunities.<sup>25</sup>

**Local.** According to the Health Resources and Services Administration (HRSA), all counties in southwest Missouri are designated as Mental Health Professional Shortage Areas, either the entire county or the low income population within that county.<sup>26</sup> Most of the licensed behavior analysts in southwest Missouri are located in metropolitan areas of Springfield and Joplin with ten and six practicing professionals, respectively. Only four other counties in the region have a resident licensed behavior analyst to provide services, and a majority of counties have no licensed professionals.<sup>27</sup>

#### **4.B. Societal Need**

Graduates of this program will be prepared not only for employment in educational settings, private care settings, and a number of other areas, but their skills will serve to meet the needs of many citizens in our community. Families are in great need of finding competent, trained individuals to provide and oversee treatment for children and adults with autism and other developmental disorders. The economic impact of behavioral health disorders is costly to the nation. For example, the annual cost of autism alone is estimated at \$137 billion per year, including both direct costs of care and indirect costs of lost income and productivity.<sup>28</sup>

#### **4.C. Methodology used to determine "A" and "B" above.**

A variety of methods were utilized to determine the need for this Master of Science in Applied Behavior Analysis. Methods included 1) reviewing national and state data related to the prevalence of developmental disorders including autism spectrum disorders; 2) evaluating the potential impact of state insurance coverage requirements and national health care reform on demand for providers; 3) reviewing enrollment in courses related to autism and Applied Behavior Analysis; and 4) reviewing student interest in becoming licensed behavior analysts as reported by academic advisors.

### **5. Address program duplication and opportunities for collaboration (should include Form CL for collaboration)**

Currently there are only four other institutions in the state that offer graduate level courses leading to eligibility for BCBA certification:

- Private
  - Forest Institute for Professional Psychology, Springfield and St. Louis
  - St. Louis University
- Public
  - Southeast Missouri State University

<sup>24</sup> Missouri Department of Mental Health. (2013) *Strategic Directions 2013-2018*. Retrieved March 3, 2014 from <http://dmh.mo.gov/docs/opla/DMHStrategicDirections2013-2018.pdf>

<sup>25</sup> Office of Missouri Governor Jay Nixon. (2103). *Gov. Nixon announces Caring for Missourians: Mental Health to prepare more students for careers in high-demand mental health care fields*. Retrieved March 3, 2014, from <http://governor.mo.gov/news/archive/gov-nixon-announces-caring-missourians-mental-health-prepare-more-students-careers-hi-1>

<sup>26</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration. (2014). *HPSA by State & County*. Retrieved March 3, 2014 from <http://hpsafind.hrsa.gov/HPSASearch.aspx>

<sup>27</sup> Missouri Division of Professional Registration. *Licensee Search - Active Licensee Only*. Retrieved March 3, 2014, from <https://renew.pr.mo.gov/licensee-search-results.asp?passview=1>

<sup>28</sup> Autism Speaks. (2014) *Autism's Costs to the Nation Reach \$137 Billion a Year*. Retrieved March 3, 2014 from <http://www.autismspeaks.org/science/science-news/autism%E2%80%99s-costs-nation-reach-137-billion-year>

- o University of Missouri – St. Louis
- o University of Central Missouri (Under development)

In addition to increasing the number of opportunities for those interested in becoming certified and licensed behavior analysts, the key characteristic which makes the proposed program distinct from the other institutions is that this would be the only program offered cooperatively by Psychology and Special Education. Graduates from this program will be prepared for work in school settings, given that they can receive training in autism spectrum disorders, the context of the school systems, as well as the principles of ABA. This truly is a unique blend of training and fills a marked gap in the current training options.

Form CL: Not Applicable

## 6. Details on Program Structure (Form PS):

### PROGRAM STRUCTURE

A. Total credits required for graduation 39

B. Residency requirements, if any: 28\*

*\*On a case-by-case basis, Missouri State may accept graduate credit earned at other regionally accredited institutions or well-established international institutions. The Missouri state University graduate transfer policy allows transfer credit to count for up to 30% of the program of study. Acceptance of transfer credits occurs through recommendation of the student's major advisor and approval of the graduate College.*

C. General education: Total credits: N/A

*Not applicable. This is a graduate program. Students will have completed a Bachelor's Degree prior to admission.*

D. Major requirements: Total credits: 39

Course Number	Credits	Course Title
PSY 614	3	Introduction to Applied Behavior Analysis
SPE 618	3	Applications of Applied Behavior Analysis and Interventions for Teachers in Applied Settings
SPE 626	3	Applied Behavior Analysis for Developmental Disabilities and Autism Spectrum Disorders
PSY 747	3	Single-Subject Research Design in Applied Behavior Analysis
PSY 777	3	Conceptual Foundations of Applied Behavioral Science
PSY 761	3	Ethical and Professional Issues
PSY 797 or SPE 710	3	Directed Research (PSY) or Problems in Special Education (SPE)
PSY 796 or SPE 791	6	Practicum (PSY) or Clinical Practicum for Special Needs Population (SPE)
PSY 799 or SPE 799	6	Thesis
Select two of the following courses:	6	
PSY 602		Learning Theories (3 credits)



SPE 625		Introduction to Teaching and Assessing Students with Autism Spectrum Disorders (3 credits)
PSY 629		Psychological Tests and Measurements (3 credits)
PSY 695		Specialized Topics in Psychology (3 credits)
PSY 745		Statistics and Research Design (3 credits)
PSY 767		Behavior Disorders of Childhood (3 credits)
SPE 780		Contemporary Issues in Special Education (3 credits)
TOTAL	39	

E. Free elective credits: 0  
(Sum of C, D, and E should equal A.)

F. Describe any requirements for thesis, internship or other capstone experience.

A six hour experimental thesis project is required for graduation. In addition, students must complete six hours of supervised practicum experience in an applied setting, or three hours in an experimental lab setting in combination with three hours in an applied setting.

G. Describe any unique features such as interdepartmental cooperation.

A unique feature of this program is the cooperative effort between Psychology and Special Education. Students who complete this program will be trained to not only be experts in Applied Behavior Analysis, but also to be familiar and competent in their ability to work effectively in school settings. Despite the need for such professionals, no other graduate program in the region offers such training. The cooperation will also provide students with the opportunity to gain more specialized training in ASD.

### Course Descriptions

#### PSY 602 Learning Theories

Recommended Prerequisite: PSY 121 and 3 additional hours of psychology. An introduction to contemporary theories about learning and behavior, emphasizing the experimental basis of these phenomena. May be taught concurrently with PSY 502. Cannot receive credit for both PSY 502 and PSY 602. 3(3-0) S

#### PSY 614 Introduction to Applied Behavior Analysis

Recommended Prerequisite: PSY 121. To investigate methods and theory for effecting desirable behavior change in schools, homes and personal lives. May be taught concurrently with PSY 508. Cannot receive credit for both PSY 508 and PSY 614. 3 (3-0) F

#### PSY 629 Psychological Tests and Measurements

Recommended Prerequisite: PSY 121 and PSY 200 or equivalent. Theory and techniques underlying measurement of human traits and abilities. Critical analysis of intellectual, achievement, interest and personality tests, including their development, application and potential abuses. May be taught concurrently with PSY 529. Cannot receive credit for both PSY 529 and PSY 629. 3(3-0) F,S

#### PSY 695 Specialized Topics in Psychology

Recommended Prerequisite: 9 hours of Psychology. Specialized investigation into selected topics in psychology. Graduate students will be required to complete an extra project to be determined by the instructor. May be repeated to a maximum of 9 hours if topic is different. Variable content course. May be taught concurrently with PSY 597. Cannot receive credit for both PSY 695 and PSY 597. 1-3 D

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**PSY 745 Statistics and Research Design**

Recommended Prerequisite: introductory statistics course from PSY 200, 611; AGR 330; ECO 308; MTH 340; QBA 237; REC 328; SOC 302; or equivalent. Use of the Analysis of Variance (ANOVA) Models and Multivariate Analysis in the design and analysis of psychological experiments. 3(3-0) F

**PSY 747 Single Subject Research Design in Applied Behavior Analysis**

Prerequisite: Graduate standing in Applied Behavior Analysis program or instructor permission. Provides instruction in the use of single subject design research methods, in both experimental and applied settings. Instruction provided in behavioral measurement via direct and indirect observation, the employment of group and individual (single-subject) time series designs, statistical approaches for within-group and single-subject design data analysis and interpretation, and use of data to evaluate interventions. The course also considers professional issues in the ethical conduct of research and practice. 3(3-0) F.

**PSY 761 Ethical and Professional Issues**

Prerequisite: admission to MS in psychology. An exploration of ethical issues, including values, professional responsibilities, and professional ethics codes. Issues are explored both from ethical and legal perspectives. Current professional issues, such as changing modes of assessment and intervention, are examined. 3(3-0) F

**PSY 767 Behavior Disorders of Childhood**

Prerequisite: PSY 766. Course focuses on assessment and treatment of common childhood behavior disorders. The course emphasizes 1) the study of biological, behavioral, cognitive, and systemic variables in the development of childhood behavior disorders; 2) training in multi-axial diagnostic assessment; and 3) interventions. 3(3-0) S

**PSY777 Conceptual Foundations of Applied Behavioral Science**

Prerequisite: Graduate Standing in Applied Behavior Analysis Program or instructor permission. The course addresses the history of Behavior Analysis, philosophy of science, advanced behavioral principles and processes and their application to various content domains in the behavioral, social, and cognitive sciences (e.g., emotion, language, cognition, and culture). 3(3-0) S

**PSY 796 Practicum**

Prerequisite: admission to the MS in Psychology program. Offers an opportunity for the graduate student to gain additional training through field experiences in research, clinical or organizational settings. Such experience need not be confined to the campus. Variable content course. May be repeated for a maximum of 6 hours. 1-6 F,S

**PSY 797 Directed Research**

Prerequisite: admission to MS in Psychology program. Offers an opportunity for the graduate student to gain additional training through guided research. Such research need not be confined to the campus. May be repeated for a maximum of 6 hours. 1-6 F,S

**PSY 799 Thesis**

Prerequisite: admission to MS in Psychology program. Independent research and study leading to the completion of the thesis. 1-6 D

**SPE 618 Application of Applied Behavior Analysis and Interventions for Teachers in Applied Settings**

Prerequisite: SPE 616. Focuses on the application of applied behavior analysis principles within school-based settings. Students will complete functional analysis/assessment on children and youth with disabilities and employ science based instruction strategies in school settings. May be taught concurrently with SPE 516. Cannot receive credit for both SPE 516 and SPE 618. 3(2-2) D

**SPE 625 Introduction to Teaching and Assessing Students with Autism Spectrum Disorders**

Prerequisite: permission of instructor. This course will support individuals across various disciplines who wish to gain knowledge of identification, assessment, and programming for individuals on the Autism Spectrum. Conditions associated with ASD will be examined along with etiology, prevalence, and assessment issues. Students will apply knowledge through review of, and practice with, various norm referenced and informal instruments and rating scales specific to ASD. Emphasis will also be placed on validated programming for ASD. May be taught concurrently with SPE 525. Cannot receive credit for both SPE 525 and SPE 625. 3(3-0) D

**SPE 626 Applied Behavior Analysis for Developmental Disabilities and Autism Spectrum Disorders**

Prerequisite: SPE 616 or SPE 515. The evolution of science based practices for students with developmental disabilities and autism spectrum disorders are still emerging within the field of education. The purpose of this course is to train teachers and/or care providers to identify science based practices within applied behavior analysis and apply these principles to students with developmental disabilities and autism spectrum disorders within applied settings. This course will focus on the use of operant behavioral techniques with an emphasis on functional analysis and functional communication training. Students will conduct clinical and school-based assessments and interventions with school age children diagnosed with developmental disabilities and autism spectrum disorders. May be taught concurrently with SPE 526. Cannot receive credit for both SPE 526 and SPE 626. 3(2-2) F,S

**SPE 710 Problems in Special Education**

Major issues in the field of special education designed to meet individual student needs. May be repeated to a total of 3 hours. 1-3 D

**SPE 780 Contemporary Issues in Special Education**

Prerequisite: permission of instructor. Analysis of trends, issues, and research in the field of special education will be reviewed and discussed. A comprehensive overview of local, state, and federal legislation and the impact on our public school special educational programs for children with disabilities will be discussed and analyzed. Historical and current litigation involving children with disabilities will be reviewed and discussed. 3(3-0) D

**SPE 791 Clinical Practicum for Special Needs Populations**

Prerequisite: SPE 625 and SPE 783 and SPE 785; and permission of instructor. This course will involve experience in a supervised, clinical setting with individuals diagnosed with various disabilities. Emphasis will be placed on developmental disabilities and challenging behaviors. Students will conduct assessment specific to their credentials and training to include learning assessment, autism specific instruments, and communication assessment. Emphasis will be placed on conducting functional behavioral assessment and utilizing data across domains to develop research

based programs. Students will participate in a multidisciplinary assessment model to include families and professionals from a variety of disciplines. Preparation and submission of reports that are research based and that are of a high professional quality will be a required course outcome. Supplemental course fee. 1-6(0-12) D

**SPE 799 Thesis**

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Prerequisite: admission to the graduate program in Special Education; and SFR 780 and SPE 780 and SPE 787 and SPE 789; and SPE 782 or SPE 783; and SPE 784 or SPE 785. Independent research and study connected with preparation of thesis. May be repeated to a maximum of 6 hours credit. 1-6 D

Due to the high level of need for this program, it is anticipated that it will reach capacity quickly and the need to continue with the initial marketing plan will dissipate after the initial three years of the program. However, the faculty will continue to recruit qualified applicants to apply to the program. The current budget for marketing materials is \$800 for the first year with \$200 for subsequent years. In addition, travel and development money has been budgeted at \$2500 per year.

A variety of activities (e.g., Research Proseminars) will be developed for the faculty and students to participate in on a monthly basis. This will assist to establish a strong relationship among faculty and students during research discussions and social events that follow each Research Proseminar event. In addition to monthly meetings, all students will be involved in research activities with the faculty which will provide the students with opportunities to engage in conference presentations and publications. Each student will be assigned a mentor/advisory to assist them through the process of the graduate program.

## **8. Program Characteristics and Performance Goals (form PG).**

### **Student Preparation**

- To gain admission into the Applied Behavior Analysis Program, students must meet the following requirements:
  1. Completion of a bachelor's degree from a regionally accredited undergraduate Psychology program or Education program with an emphasis in special education.
  2. Maintained a cumulative grade point average (GPA) of 3.0 in undergraduate and graduate work and a 3.25 in major field.
  3. Applicants with a Psychology major must have maintained a 3.25 in all psychology coursework and completed at least 20 semester hours or 30 quarter hours of psychology, including coursework in statistics and research methods.
  4. Applicants with an Education major with an emphasis in Special Education must have maintained a 3.25 GPA in the professional education courses and the certificate subject area of Special Education.
  5. The following Graduate Record Exam (GRE) scores are recommended as minimum scores for consideration of applicants: A Verbal Reasoning score of 151 or higher, a Quantitative Reasoning score of 142 or higher, and an Analytical Writing score of 3.5.
  6. All applications to the graduate program will be required to complete a Family Care Safety Registry background check. If you are a Missouri resident and have not completed the Family Care and Safety Registry (FCSR) form, please do so by following this link; <http://education.missouristate.edu/services/efe/fcsr.htm>.
- Characteristics of a specific population to be served, if applicable.

The Applied Behavior Analysis degree will serve those students who are committed to a behavioral orientation in Psychology and/or Special Education, who show research and scholarly potential, as teachers, scientists and practitioners. By successful completion the Master's Degree

and BCBA supervised practicums, students will be eligible to take the exam to become a Board Certified Behavior Analyst.

### Faculty Characteristics

- Special requirements

**Program Coordinator:** The coordinator of the program must be a Board Certified Behavior Analyst. This is important for approval of the program by the Behavior Analyst Certification Board, as well as for the supervision of students. In addition, the coordinator will hold a doctoral level degree in behavior analysis, or psychology, with an emphasis in behavior analysis. The coordinator position will be held by a full-time, tenure track faculty member, and 100% of their teaching load will be devoted to this degree program. The coordinator will be expected to be active in ongoing research activities, provide service to the university, and maintain excellent teaching. The coordinator will be expected to participate in professional organizations including Association for Behavior Analysis International, and the state chapter of the Missouri Association of Behavior Analysis. The coordinator will focus on recruitment of new students to the program through advertisement and professional presence and representation. For current students, the coordinator will oversee the practicum placement of students, as well as monitor progress in the program and in completion of thesis projects. The coordinator will serve on thesis committees as needed.

**Supporting Faculty:** It is estimated that at least four current full time faculty members will provide supporting roles in teaching and supervision. Some of these individuals will continue to teach the same courses, but their class enrollment will now include students in the ABA Master's Program. For others, a course from this program will serve to fulfill part of their teaching load. Overall, it is estimated that one to two of their courses will be devoted to this program. Supporting faculty are not required to hold BCBA certification, but are required to have specialized interest and training in behavior analysis. Supporting faculty will also supervise students, overseeing completion of thesis projects and other research activities.

- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.

It is estimated that 90% of the credit hours will be assigned to full time faculty.

- Expectations for professional activities, special student contact, teaching learning innovation.

Faculty members are expected to maintain involvement with the ABA profession at the local, district, and national levels. This includes attending professional development activities; attending state, district, and national conferences; and conducting and publishing research. Faculty members will have contact with students in the classroom, at practicum sites, through research projects, and through advisement/mentorship. Faculty members will be involved in student recruitment efforts in conjunction with other faculty and staff on campus (the Office of Admissions, Graduate College, College of Health and Human Services, etc.), which may include the design of promotional materials, updating website information, visiting career/college fairs, hosting open houses, and participating in Missouri State University sponsored fairs/showcases.

Duties associated with evaluation and mentorship of students will be shared among faculty members. Each student will be required to assemble a committee to oversee his/her thesis. Psychology or Special Education faculty members will be required to serve as committee chairs.

Other committee members may include graduate faculty from related disciplines or adjunct faculty with graduate faculty status who have particular interest in the topic being investigated. The appointed research faculty will oversee all research activities to maintain timeline, Institutional Review Board (IRB) approvals, and ultimate completion and defense of the thesis.

Teaching/learning innovations will include traditional didactic methods, practicum education, case studies, research project, individual- and group-based projects, as well as many other techniques the faculty elect to utilize. Missouri State University's Faculty Center for Teaching and Learning (FCTL) provides course development resources such as the Digital Professor Academy for those who wish to learn to use and incorporate the latest technology in creative teaching methods. Faculty will be encouraged to take advantage of these opportunities in order to create more innovative courses and delivery methods.

#### **Enrollment Projections (repeat section 1.A.i)**

- Student FTE majoring in program by the end of five years.

It is estimated that enrollment will be 18 FTE at the end of five years.

- Percent of full time and part time enrollment by the end of five years.

The program is a full time program. All students (Full time = 100%) will be expected to be fully enrolled for five consecutive semesters. There are no part time enrollment options (Part time = 0%).

#### **Student and Program Outcomes**

- Number of graduates per annum at three and five years after implementation.  
Year 3 – 14 graduates; Year 5 – 32 graduates
- Special skills specific to the program.

Students in the Applied Behavior Analysis program will receive comprehensive training in the specific use of principles of learning, including operant and respondent conditioning, in order to address behavioral needs of widely varying individuals in diverse settings and solving socially relevant problems; in sum, putting knowledge to practice. The learning goals of the master's program in behavior analysis include:

1. Understand single-subject design research and be able to comprehend the meaning of the resulting data.
2. Provide educated professionals with the skills to develop and implement behavior change and management intervention programs to families with infants, young children and teens who require specialized treatment.
3. Define and understand basic mechanisms of behavior change processes.
4. Demonstrate ethical and professional competency in applying behavior change processes when working with animal and human samples.
5. Be aware of and sensitive to cultural variances in the field of disabilities.
6. Contribute to the community need for competent professionals in teaching and serving individuals with developmental disabilities. Through practicum placement and training students will:
  - a) provide and learn the importance of community mental services.
  - b) develop exceptional experience working collaboratively with the families

of the children and adults, and the agencies that provide their treatment.

- c) learn how to provide effective behavior management information regarding services for individuals with special needs (e.g., those with autism spectrum disorders, mental retardation, or developmental disabilities) to the professional community and to the general public.
  - d) enter mental health professions that provide school-based interventions, home-based interventions, program evaluations, and educational services.
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- Proportion of students who will achieve licensing, certification, or registration.

It is expected that 85% of the graduates who complete the Applied Behavior Analysis degree will seek BCBA certification. The remaining 15% will pursue a Ph.D. degree, but would not be precluded from seeking BCBA certification at a later date.

- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.

Of those taking the BCBA certification exam, it is expected that 80% will succeed in passing the exam on the first attempt with a 100% ultimate pass rate. The national overall pass rate of first-time candidates who took the BCBA examination in 2013 was 58%.<sup>29</sup>

- Placement rates in related fields, in other fields, unemployed.

It is anticipated that at least 90% of graduates desiring employment will be employed in their area within three months of graduation; 97% of those seeking employment are expected to be employed within six months of graduation. A small number may not seek immediate employment due to life circumstances.

- Transfer rates, continuous study.

It is anticipated that few, if any, transfer students will seek admission to this graduate program. However, transfer may be allowed in those cases in which a good match of prior coursework is evidenced. No more than 30% of a program of study may be transfer coursework according to the policy of the Graduate College.<sup>30</sup>

### **Program Accreditation**

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. If there are no plans to seek specialized accreditation, please provide a rationale.

After five years, the institution will apply to the Association for Behavior Analysis International (ABAI) for accreditation. The accrediting body requests five years of data in addition to review of course material, student feedback, and site visit prior to granting accreditation.

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<sup>29</sup> Behavior Analyst Certification Board. (2014) *2013-BCBA Examination pass rates for Approved Course Sequences*. Retrieved March 3, 2014, from [http://www.bacb.com/Downloadfiles/PassRates/BCBA\\_ACS\\_pass\\_rates\\_percent.pdf](http://www.bacb.com/Downloadfiles/PassRates/BCBA_ACS_pass_rates_percent.pdf)

<sup>30</sup> Missouri State University Transfer Credit Policy. Op3.19-7 Graduate Transfer Credit. Retrieved March 3, 2014, from <http://graduate.missouristate.edu/catalog/141848.htm>



## Alumni and Employer Survey

- Expected satisfaction rates for alumni, including timing and method of surveys

The program will seek to provide excellent training opportunities for students and to prepare students to be effective in their chosen area of employment. To assess our progress in meeting this goal, surveys will be administered to each alumnus at the completion of their training, two years following graduation, and again ten years post-graduation. It is expected that all alumni will describe themselves as being “satisfied” to “completely satisfied” with their experience and knowledge gained from the program. It is expected that these surveys will help identify some areas that need improvement and provide suggestions for improvement.

- Expected satisfaction rates for employers, including timing and method of surveys.

We will seek feedback from known employers of our graduates. This information, along with alumni survey material will be utilized in reviewing and modifying our curriculum as needed to meet the needs of students and employers. All employers will be asked to complete a survey relating to their satisfaction with program alumni hired after one, two, and five years of employment. It is expected that all employers will indicate a rating of “satisfied” to “completely satisfied” with program alumni that they hire. It is expected that these surveys will help identify some areas that need improvement and provide suggestions for improvement. Additionally, employers that are willing and able will be asked to take part in an advisory board that will be utilized to provide feedback and assist with ensuring continuous monitoring and improvement of the program.

## 9. Plans for accreditation, including a rationale if it is not a goal for this program:

The Psychology Department will seek accreditation of the MS ABA from the Association for Behavior Analysis International when eligible. Prior to that eligibility, we will seek pre-approval from the Behavior Analyst Certification Board (BACB).<sup>31</sup> Although not an accrediting body, the BACB allows universities to gain pre-approval for their courses and training as meeting certification eligibility requirements. Upon approval by the Coordinating Board of Higher Education of the Missouri Department of Higher Education, we will take the steps necessary to gain pre-approval from BACB. This includes providing the certification board with syllabi for all coursework and a bridge link to the items from the task training list developed by the Board. Syllabi will be reviewed, and any necessary modifications will be completed to facilitate the process as quickly as possible. When completed, our program will be noted on the BACB website and other materials as being an approved training center. The pre-approval process, though not necessary for students to fulfill their certification requirements, will make the process of applying for certification simpler. In addition, the preapproval status will serve as a marketing tool for the program.

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<sup>31</sup> Behavior Analyst Certification Board. *About the BACB*. Retrieved March 3, 2014, from <http://www.bacb.com/>

## 10. Institutional Characteristics

Missouri State University is a public, comprehensive metropolitan system with a statewide mission in public affairs, whose purpose is to develop educated persons. The University's identity is distinguished by its public affairs mission, which entails a campus-wide commitment to foster expertise and responsibility in ethical leadership, cultural competence and community engagement. The academic experience is grounded in a general education curriculum which draws heavily from the liberal arts and sciences. This foundation provides the basis for mastery of disciplinary and professional studies. It also provides essential forums in which students develop the capacity to make well-informed, independent critical judgments about the cultures, values and institutions in society. The proposed Master of Applied Behavior Analysis program will be administered by the Psychology Department in CHHS in cooperation with the Special Education program in COE. The Colleges offer a variety of strong undergraduate programs along with graduate degrees and graduate certificate programs in the health and human services and in education. These programs have excellent reputations, maintain national accreditation from their disciplines when available, and prepare graduates who achieve high first-time pass rates on national exams after program completion. Many programs have long-term established relationships with schools and healthcare institutions in the region, including rural communities, which will benefit the MS ABA program when seeking placement sites for students. The MS ABA program will be housed in the Department of Psychology, which has a number of faculty members with advanced training in behavior analysis, and experience offering three undergraduate degrees, a graduate certificate, and a Master of Psychology degree with three tracks (Clinical, Experimental and Industrial/Organizational). The Special Education program in COE will cooperate in the delivery of the program by offering specific required courses as well as assisting with recruitment and advisement. The Special Education program currently offers a graduate certificate in Autism Spectrum Disorders along with graduate and undergraduate degrees in Special Education.

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## APPENDIX 1: MDHE Forms

### STUDENT ENROLLMENT PROJECTIONS (Form SE)

Year	1	2	3	4	5
Full Time	5	14	18	18	18
Part Time	0	0	0	0	0
Total	5	14	18	18	18

Please provide a rationale regarding how student enrollment projections were calculated: Enrollment projections are based on the level of interest expressed by current and prospective students at Missouri State University majoring in Psychology and Special Education as reported by academic advisors. In addition, enrollment records for current undergraduate and graduate level courses related to autism and ABA were analyzed to help determine enrollment projections.

Due to the anticipated start date of Fall 2014 with limited time for recruitment of qualified ABA students, five students will be accepted for the initial cohort. Thereafter, a maximum of nine full-time students will be accepted per year. Given the intense faculty time commitment for practicum and thesis supervision, and our efforts to maintain quality training, nine students per year appears manageable. This number of graduate students is also in concordance with existing acceptance rates in each of the three Psychology Masters tracks (Clinical, Experimental, and Industrial/Organizational).

Provide a **rationale** for proposing this program, including **evidence of market demand and societal need supported by research**:

#### 4.A. Market Demand

**National.** The American Psychological Association reported that there is a critical need for mental and behavioral health training, and a particular shortage of professionals who specialize in the needs of children and older adults.<sup>32</sup> In addition, the prevention, diagnosis and/or treatment of the fifteen leading causes of death as reported by the CDC have a behavioral component. Although there has been a steady increase in the number of individuals with BCBA certification, there has also been a rapid increase in the number of positions for BCBA qualified individuals established by both the public and private sectors.<sup>33</sup> A recent search of a national employment website revealed 4,940 open positions for behavior analysts.<sup>34</sup> With implementation of the Affordable Health Care Act requiring that individual and small business

<sup>32</sup> American Psychological Association. (2009) *A Critical Need for Mental (and Behavioral) Health Workforce Training*. Retrieved March 3, 2014, from <http://www.apa.org/health-reform/pdf/mental-health-workforce.pdf>

<sup>33</sup> Shook, GL, Favell, JE. (2008) The Behavior Analyst Certification Board and the Profession of Behavior Analysis. [Electronic version] *Behav Anal Pract.* 19(1): 44-48.

<sup>34</sup> Indeed, *Behavior Analyst jobs*. Retrieved March 3, 2014, from <http://www.indeed.com/q-Behavior-Analyst-jobs.html>

group plans provide coverage for autism related services, the demand for qualified professionals is expected to increase.<sup>35</sup>

**State.** According to the Health Resources and Services Administration of the U.S. Department of Health and Human Services, 104 Missouri counties and most of St. Louis City are designated by the federal government as mental health professional shortage areas.<sup>36</sup> The Department of Insurance, Financial Institutions and Professional Registration reported that since state licenses for behavior analysts were first issued in December of 2010, 218 people have obtained licensure at the master's level with 181 still active.<sup>37</sup> Although this is a positive sign of growth and contributes to the ABA services available, 87 of Missouri's 115 counties, particularly those in rural areas of the State, have no resident licensed behavior analyst to provide services.<sup>38</sup> As a result, despite assurance of treatment, many still cannot access care. In response to critical shortages of mental health professionals, the Missouri Department of Mental Health's Strategic Plan includes a goal of "Developing and expanding a viable Missouri mental health workforce."<sup>39</sup> Missouri Governor Nixon proposed the *Caring for Missourians: Mental Health* initiative to expand mental health training opportunities.<sup>40</sup>

**Local.** According to the Health Resources and Services Administration (HRSA), all counties in southwest Missouri are designated as Mental Health Professional Shortage Areas, either the entire county or the low income population within that county.<sup>41</sup> Most of the licensed behavior analysts in southwest Missouri are located in metropolitan areas of Springfield and Joplin with ten and six practicing professionals, respectively. Only four other counties in the region have a resident licensed behavior analyst to provide services, and a majority of counties have no licensed professionals.<sup>42</sup>

#### 4.B. Societal Need

Graduates of this program will be prepared not only for employment in educational settings, private care settings, and a number of other areas; but their skills will serve to meet the needs of many citizens in our community. Families are in great need of finding competent, trained individuals to provide and oversee treatment for children and adults with autism and other developmental disorders. The economic impact of behavioral health disorders is costly to the nation. For example, the annual cost of autism alone is estimated at \$137 billion per year, including both direct costs of care and indirect costs of lost income and productivity.<sup>43</sup>

#### 4.C. Methodology used to determine "A" and "B" above.

<sup>35</sup> Patient Protection and Affordable Care Act, Pub. L. No. 111-148, §2702, 124 Stat. 119, 318-319 (2010)

<sup>36</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration. (2014). *Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations*. Retrieved March 3, 2014, from <http://www.hrsa.gov/shortage/>

<sup>37</sup> Department of Insurance, Financial Institutions & Professional Registration. (2014). *Annual Report to the Missouri Legislature: Insurance Coverage for Autism Treatment & Applied Behavior Analysis*. Retrieved March 3, 2014, from <https://insurance.mo.gov/consumers/autismFAQ/documents/2014AutismReport.pdf>

<sup>38</sup> Ibid. 13.

<sup>39</sup> Missouri Department of Mental Health. (2013) *Strategic Directions 2013-2018*. Retrieved March 3, 2014 from <http://dmh.mo.gov/docs/opla/DMHStrategicDirections2013-2018.pdf>

<sup>40</sup> Office of Missouri Governor Jay Nixon. (2103). *Gov. Nixon announces Caring for Missourians: Mental Health to prepare more students for careers in high-demand mental health care fields*. Retrieved March 3, 2014, from <http://governor.mo.gov/news/archive/gov-nixon-announces-caring-missourians-mental-health-prepare-more-students-careers-hi-1>

<sup>41</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration. (2014). *HPSA by State & County*. Retrieved March 3, 2014 from <http://hpsafind.hrsa.gov/HPSASearch.aspx>

<sup>42</sup> Missouri Division of Professional Registration. *Licensee Search - Active Licensee Only*. Retrieved March 3, 2014, from <https://renew.pr.mo.gov/licensee-search-results.asp?passview=1>

<sup>43</sup> Autism Speaks. (2014) *Autism's Costs to the Nation Reach \$137 Billion a Year*. Retrieved March 3, 2014 from <http://www.autismspeaks.org/science/science-news/autism%E2%80%99s-costs-nation-reach-137-billion-year>.

A variety of methods were utilized to determine the need for this Master of Science in Applied Behavior Analysis. Methods included 1) reviewing national and state data related to the prevalence of developmental disorders including autism spectrum disorders; 2) evaluating the potential impact of state insurance coverage requirements and national health care reform on demand for providers; 3) reviewing enrollment in courses related to autism and Applied Behavior Analysis; and 4) reviewing student interest in becoming licensed behavior analysts as reported by academic advisors.

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PROGRAM STRUCTURE (Form PS)

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A. Total credits required for graduation: 39

B. Residency requirements, if any: 28\*

*\*On a case-by-case basis, Missouri State may accept graduate credit earned at other regionally accredited institutions or well-established international institutions. The Missouri State University graduate transfer policy allows transfer credit to count for up to 30% of the program of study. Acceptance of transfer credits occurs through recommendation of the student's major advisor and approval of the graduate College.*

C. General education: Total credits: N/A

*Not applicable. This is a graduate program. Students will have completed a Bachelor's Degree prior to admission.*

D. Major requirements: Total credits: 39

Course Number	Credits	Course Title
PSY 614	3	Introduction to Applied Behavior Analysis
SPE 618	3	Applications of Applied Behavior Analysis and Interventions for Teachers in Applied Settings
SPE 626	3	Applied Behavior Analysis for Developmental Disabilities and Autism Spectrum Disorders
PSY 747	3	Single-Subject Research Design in Applied Behavior Analysis
PSY 777	3	Conceptual Foundations of Applied Behavioral Science
PSY 761	3	Ethical and Professional Issues
PSY 797 or SPE 710	3	Directed Research (PSY) or Problems in Special Education (SPE)
PSY 796 or SPE 791	6	Practicum (PSY) or Clinical Practicum for Special Needs Population (SPE)
PSY 799 or SPE 799	6	Thesis
<i>Select two of the following courses:</i>	6	
PSY 602		Learning Theories (3 credits)
SPE 625		Introduction to Teaching and Assessing Students with Autism Spectrum Disorders (3 credits)
PSY 629		Psychological Tests and Measurements (3 credits)
PSY 695		Specialized Topics in Psychology (3 credits)
PSY 745		Statistics and Research Design (3 credits)
PSY 767		Behavior Disorders of Childhood (3 credits)
SPE 780		Contemporary Issues in Special Education (3 credits)
TOTAL	39	

E. Free elective credits:

0

(Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:

A six hour experimental thesis project is required for graduation. In addition, students must complete six hours of supervised practicum experience in an applied setting, or three hours in an experimental lab setting in combination with three hours in an applied setting.

G. Any unique features such as interdepartmental cooperation:

A unique feature of this program is the cooperative effort between Psychology and Special Education. Students who complete this program will be trained to not only be experts in Applied Behavior Analysis, but also to be familiar and competent in their ability to work effectively in school settings. Despite the need for such professionals, no other graduate program in the region offers such training. The cooperation will also provide students with the opportunity to gain more specialized training in ASD.

## **7.B. Business and Marketing Plan: Recruiting and Retaining Students**

Psychology and Special Education faculty will present the program proposal at various conferences in the state of Missouri, regionally and nationally to assist with the recruitment of students to apply to the Masters in Applied Behavior Analysis.

- Missouri Applied Behavior Analysis Conference, St. Louis
- Midwest Symposium for Leadership in Behavior Disorders, Kansas City
- International Applied Behavior Analysis Conference, Chicago, Illinois
- International Applied Behavior Analysis Conference in Autism, Lexington, Kentucky
- Kansas Autism Research Institute Yearly Conference, Overland Park Kansas

Additional recruitment brochures will be disseminated to Psychology and Special Education undergraduate programs within the state and the surrounding regions to further assist with recruitment of students. Minority institutions will be targeted to assist with the recruitment of underrepresented populations for the Applied Behavior Analysis Master's program.

Due to the high level of need for this program, it is anticipated that it will reach capacity quickly and the need to continue with the initial marketing plan will dissipate after the initial three years of the program. However, the faculty will continue to recruit qualified applicants to apply to the program. The current budget for marketing materials is \$800 for the first year with \$200 for subsequent years. In addition, travel and development money has been budgeted at \$2500 per year.

A variety of activities (e.g., Research Prosem) will be developed for the faculty and students to participate in on a monthly basis. This will assist to establish a strong relationship among faculty and students during research discussions and social events that follow each Research Prosem event. In addition to monthly meetings, all students will be involved in research activities with the faculty which will provide the students with opportunities to engage in conference presentations and publications. Each student will be assigned a mentor/advisory to assist them through the process of the graduate program.

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## PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS (Form PG)

Institution Name Missouri State University

Program Name Master of Science in Applied and Behavior Analysis

Date 3/31/2014

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below.

Quantification of performance goals should be included wherever possible.)

### Student Preparation

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.
  1. Completion of a bachelor's degree from a regionally accredited undergraduate Psychology program or Education program with an emphasis in special education.
  2. Maintained a cumulative grade point average (GPA) of 3.0 in undergraduate and graduate work and a 3.25 in major field.
  3. Applicants with a Psychology major must have maintained a 3.25 in all psychology coursework and completed at least 20 semester hours or 30 quarter hours of psychology, including coursework in statistics and research methods.
  4. Applicants with an Education major with an emphasis in Special Education must have maintained a 3.25 GPA in the professional education courses and the certificate subject area of Special Education.
  5. The following Graduate Record Exam (GRE) scores are recommended as minimum scores for consideration of applicants: A Verbal Reasoning score of 151 or higher, a Quantitative Reasoning score of 142 or higher, and an Analytical Writing score of 3.5.
  6. All applications to the graduate program will be required to complete a Family Care Safety Registry background check. If you are a Missouri resident and have not completed the Family Care and Safety Registry (FCSR) form, please do so by following this link;  
<http://education.missouristate.edu/services/efe/fcsr.htm>.
- Characteristics of a specific population to be served, if applicable.

The Applied Behavior Analysis degree will serve those students who are committed to a behavioral orientation in Psychology and/or Special Education, who show research and scholarly potential, as teachers, scientists and practitioners. By successful completion the Master's Degree and BCBA supervised practicums, students will be eligible to take the exam to become a Board Certified Behavior Analyst.

### Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.

**Program Coordinator:** The coordinator of the program must be a Board Certified Behavior Analyst. This is important for approval of the program by the Behavior Analyst Certification Board, as well as for the supervision of students. In addition, the coordinator will hold a doctoral level degree in behavior analysis, or psychology, with an emphasis in behavior analysis. The coordinator position will be held by a full-time, tenure track faculty member, and 100% of their teaching load will be devoted to this degree program. The coordinator will be expected to be active in ongoing research activities, provide service to the university, and maintain excellent teaching. The coordinator will be expected to participate in professional organizations including Association for Behavior Analysis International, and the state chapter of the Missouri Association of Behavior Analysis. The coordinator will focus on recruitment of new students to the program through advertisement and professional presence and representation. For current students, the coordinator will oversee the practicum placement of students, as well as monitor progress in the program and in completion of thesis projects. The coordinator will serve on thesis committees as needed.

**Supporting Faculty:** It is estimated that at least four current full time faculty members will provide supporting roles in teaching and supervision. Some of these individuals will continue to teach the same courses, but their class enrollment will now include students in the ABA Master's Program. For others, a course from this program will serve to fulfill part of their teaching load. Overall, it is estimated that one to two of their courses will be devoted to this program. Supporting faculty are not required to hold BCBA certification, but are required to have specialized interest and training in behavior analysis. Supporting faculty will also supervise students, overseeing completion of thesis projects and other research activities.

- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.

It is estimated that 90% of the credit hours will be assigned to full time faculty.

- Expectations for professional activities, special student contact, teaching/learning innovation.

Faculty members are expected to maintain involvement with the ABA profession at the local, district, and national levels. This includes attending professional development activities; attending state, district, and national conferences; and conducting and publishing research. Faculty members will have contact with students in the classroom, at practicum sites, through research projects, and through advisement/mentorship. Faculty members will be involved in student recruitment efforts in conjunction with other faculty and staff on campus (the Office of Admissions, Graduate College, College of Health and Human Services, etc.), which may include the design of promotional materials, updating website information, visiting career/college fairs, hosting open houses, and participating in Missouri State University sponsored fairs/showcases.

Duties associated with evaluation and mentorship of students will be shared among faculty members. Each student will be required to assemble a committee to oversee his/her thesis. Psychology or Special Education faculty members will be required to serve as committee chairs. Other committee members may include graduate faculty from related disciplines or adjunct faculty with graduate faculty status who have particular interest in the topic being investigated. The appointed research faculty will oversee all

research activities to maintain timeline, Institutional Review Board (IRB) approvals, and ultimate completion and defense of the thesis.

Teaching/learning innovations will include traditional didactic methods, practicum education, case studies, research project, individual- and group-based projects, as well as many other techniques the faculty elect to utilize. Missouri State University's Faculty Center for Teaching and Learning (FCTL) provides course development resources such as the Digital Professor Academy for those who wish to learn to use and incorporate the latest technology in creative teaching methods. Faculty will be encouraged to take advantage of these opportunities in order to create more innovative courses and delivery methods.

## **Enrollment Projections**

- Student FTE majoring in program by the end of five years.

It is estimated that enrollment will be 18 FTE at the end of five years.

- Percent of full time and part time enrollment by the end of five years.

The program is a full time program. All students (Full time = 100%) will be expected to be fully enrolled for five consecutive semesters. There are no part time enrollment options (Part time = 0%).

## **Student and Program Outcomes**

- Number of graduates per annum at three and five years after implementation.

Year 3 – 14 graduates; Year 5 – 32 graduates

- Special skills specific to the program.

Students in the Applied Behavior Analysis program will receive comprehensive training in the specific use of principles of learning, including operant and respondent conditioning, in order to address behavioral needs of widely varying individuals in diverse settings and solving socially relevant problems; in sum, putting knowledge to practice. The learning goals of the master's program in behavior analysis include:

1. Understand single-subject design research and be able to comprehend the meaning of the resulting data.
2. Provide educated professionals with the skills to develop and implement behavior change and management intervention programs to families with infants, young children and teens who require specialized treatment.
3. Define and understand basic mechanisms of behavior change processes.
4. Demonstrate ethical and professional competency in applying behavior change processes when working with animal and human samples.
5. Be aware of and sensitive to cultural variances in the field of disabilities.
6. Contribute to the community need for competent professionals in teaching and serving individuals with developmental disabilities. Through practicum placement and training students will:

- a) provide and learn the importance of community mental services.
  - b) develop exceptional experience working collaboratively with the families of the children and adults, and the agencies that provide their treatment.
  - c) learn how to provide effective behavior management information regarding services for individuals with special needs (e.g., those with autism spectrum disorders, mental retardation, or developmental disabilities) to the professional community and to the general public.
  - d) enter mental health professions that provide school-based interventions, home-based interventions, program evaluations, and educational services.
- Proportion of students who will achieve licensing, certification, or registration.

It is expected that 85% of the graduates who complete the Applied Behavior Analysis degree will seek BCBA certification. The remaining 15% will pursue a Ph.D. degree, but would not be precluded from seeking BCBA certification at a later date.

- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.

Of those taking the BCBA certification exam, it is expected that 80% will succeed in passing the exam on the first attempt with a 100% ultimate pass rate. The national overall pass rate of first-time candidates who took the BCBA examination in 2013 was 58%.<sup>44</sup>

- Placement rates in related fields, in other fields; unemployed.

It is anticipated that at least 90% of graduates desiring employment will be employed in their area within three months of graduation; 97% of those seeking employment are expected to be employed within six months of graduation. A small number may not seek immediate employment due to life circumstances.

- Transfer rates, continuous study.

It is anticipated that few, if any, transfer students will seek admission to this graduate program. However, transfer may be allowed in those cases in which a good match of prior coursework is evidenced. No more than 30% of a program of study may be transfer coursework according to the policy of the Graduate College.<sup>45</sup>

## Program Accreditation

<sup>44</sup> Behavior Analyst Certification Board. (2014) *2013-BCBA Examination pass rates for Approved Course Sequences*. Retrieved March 3, 2014, from [http://www.bacb.com/Downloadfiles/PassRates/BCBA\\_ACS\\_pass\\_rates\\_percent.pdf](http://www.bacb.com/Downloadfiles/PassRates/BCBA_ACS_pass_rates_percent.pdf)

<sup>45</sup> Missouri State University Transfer Credit Policy. Op3.19-7 Graduate Transfer Credit. Retrieved March 3, 2014, from <http://graduate.missouristate.edu/catalog/141848.htm>



- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. If there are no plans to seek specialized accreditation, please provide reasons.

After five years, the institution will apply to the Association for Behavior Analysis International (ABAI) for accreditation. The accrediting body requests five years of data in addition to review of course material, student feedback, and site visit prior to granting accreditation.

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## **Alumni and Employer Survey**

- Expected satisfaction rates for alumni, including timing and method of surveys

The program will seek to provide excellent training opportunities for students and to prepare students to be effective in their chosen area of employment. To assess our progress in meeting this goal, surveys will be administered to each alumnus at the completion of their training, two years following graduation, and again ten years post-graduation. It is expected that all alumni will describe themselves as being “satisfied” to “completely satisfied” with their experience and knowledge gained from the program. It is expected that these surveys will help identify some areas that need improvement and provide suggestions for improvement.

- Expected satisfaction rates for employers, including timing and method of surveys

We will seek feedback from known employers of our graduates. This information, along with alumni survey material will be utilized in reviewing and modifying our curriculum as needed to meet the needs of students and employers. All employers will be asked to complete a survey relating to their satisfaction with program alumni hired after one, two, and five years of employment. It is expected that all employers will indicate a rating of “satisfied” to “completely satisfied” with program alumni that they hire. It is expected that these surveys will help identify some areas that need improvement and provide suggestions for improvement. Additionally, employers that are willing and able will be asked to take part in an advisory board that will be utilized to provide feedback and assist with ensuring continuous monitoring and improvement of the program.